



# Naval Medical Research and Development

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[Home](#)[Leadership](#)[Laboratories](#)[Collaboration](#)[News & Media](#)[Resources](#)

## News Releases

### Navy Undersea Medical Officer and Anesthesiologist Slated for Research at Naval Medical Research Center

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Lt. Cmdr. William "Andy" Cronin received a research grant from the Foundation for Anesthesia Education and Research (FAER) to study at the Naval Medical Research Center (NMRC), July 2017 – July 2018 (photo courtesy NMRC Public Affairs)

SILVER SPRING, Md. – Lt. Cmdr. William "Andy" Cronin received a research grant from the Foundation for Anesthesia Education and Research (FAER) to study at the Naval Medical Research Center (NMRC), July 2017 – July 2018. Cronin, an Undersea Medical Officer and Anesthesiologist at the Walter Reed National Military Medical Center (WRNMMC), Anesthesia Department, is the first active-duty service member to receive this particular FAER grant.

He will be working in the Undersea Medicine Department (UMD) within the Operational and Undersea Medicine Directorate (OUMD) at NMRC. Cronin is working on a non-invasive breath test that can indicate when oxygen exposure transitions from being helpful to potentially harmful for patients requiring critical care or warfighters in an operational setting using oxygen in extreme environments.

"Inspiring a high partial pressure of oxygen for a prolonged time can lead to lung damage, termed pulmonary oxygen toxicity (PO<sub>2</sub>T)," said Cronin.

## News Releases

[Tackling Common Problems: NASA Scientists and NSMRL Researchers](#)

[Summer Interns Support Unique Research at NAMRU – Dayton](#)

[R&D Chronicles: Dr. Krueger and the Story of the First NAMRU](#)

[Navy Undersea Medical Officer and Anesthesiologist Slated for Research at Naval Medical Research Center](#)

[Surface Warfare Officer Selected NAMRU-Dayton for Graduate Internship](#)

[Meet NAMRU-SA's Research Dentists – Focused on Innovation to Support Warfighter Readiness](#)

[Keeping Cool with Science](#)

[New Commanding Officer to Continue Research Excellence at NHRC](#)

[NAMRU-Dayton hosts Aerospace Medicine Research Alignment and Collaboration](#)

[Navy Medical Research Lab in Cambodia Receives Award for Supporting Public Health](#)

[Peruvian Navy Surgeon General and Other Distinguished Guests Visit Naval Medical Research Center](#)

[Military Sealift Deputy Commander Visits Navy Lab in Dayton](#)

[Two Naval Medical Research Center Corpsmen Selected for Medical Degree Preparatory Program](#)

[NMRC Summer Interns Arrive, All Ready to Research](#)

[NAMRU-SA Researchers Working on Laser Therapy Project to Improve Treatment of Multi-Drug Resistant Wound Infections](#)

[R&D Chronicles: Remembering NAMRU-5, the Navy's Medical Laboratory in Ethiopia, 1965-1977](#)

[Defense Health Agency to Assume Oversight of DoD HIV/AIDS Prevention](#)

## Program

[NAMRU-SA Research Dentist Competes for IRONMAN "All World Athlete" Status](#)

[Navy Core Values and Grit in Action – A Trek to Mt. Everest Base Camp](#)

[NMRC Participates in Second Biennial Department of Defense Lab Day](#)

Cronin's FAER research will investigate PO<sub>2</sub>T as a foundation for more in-depth studies. This work will identify possible early markers and treatments for PO<sub>2</sub>T that is relevant to both anesthesia critical care and today's warfighters.

"Maintaining tissue oxygenation while minimizing lung damage from exposure to toxic levels of oxygen or barotrauma is a difficult balance," said Cronin. "Without reliable tools to predict the onset or resolution of PO<sub>2</sub>T in real time, management of oxygen exposure is largely based on empirical evidence."

A graduate of the United States Naval Academy, Cronin also holds a dual degree in medicine and business from Dartmouth College. He trained to become an Undersea Medical Officer at the Naval Medical Institute in Groton, Connecticut, he then completed an undersea medicine tour at NMRC from 2011 - 2014.

"The grant would not have been possible without the foundation of the PO<sub>2</sub>T work I started in UMD with my co-investigator Dr. Aaron Hall and under the mentorship of Dr. Richard Mahon. I am thankful for the time this grant provides to build on my understanding of PO<sub>2</sub>T and the potential roll of breath testing in medicine," said Cronin.

Cronin isn't the only person excited about this research opportunity.

"We welcome the opportunity to support him in his research and career development on his path to becoming an influential leader in the advancement of care in both an operational and clinical setting of our armed forces and their families," said Dr. Steven Ahlers, Director, OUMD, NMRC.

After his grant time has ended, Cronin plans to remain at the WRNMMC in the Anesthesia Department, where he will predominately work as an anesthesiologist, but he has no plans to end his work in research.

"I am grateful I have been afforded the opportunity to pursue this grant. I intend to continue with research in the clinical and laboratory environments to serve our warfighters and families in the best capacity I can as a Navy officer," said Cronin. "My goal is to improve the performance and clinical care of the warfighter and their family."

OUMD conducts medical research, development, testing, and evaluation to develop new information and technologies to enhance the health, safety, performance, and deployment readiness of Navy and Marine Corps personnel. The Directorate consists of three departments: Undersea Medicine, Neurotrauma, and Regenerative Medicine.

According to their website, the Foundation for Anesthesia Education and Research (FAER) is a 501(c)3 non-profit, and a related organization of the American Society of Anesthesiologists. For over 30 years, FAER has been dedicated to developing the next generation of physician-scientists in anesthesiology.